

CLAIMS

- 5           1. A nonwoven fabric made of filaments, having a ratio of the strength in the machine direction to the strength in the cross direction of less than 1.5, preferably less than 1.3 and better still less than 1.1, characterized by a density of less than  $0.10 \text{ g/cm}^3$ , preferably between  $0.09$  and  $0.03 \text{ g/cm}^3$  and better still between  $0.07$  and  $0.03 \text{ g/cm}^3$ .
- 10           2. The nonwoven as claimed in claim 1, the filaments of which have a titer of between 0.9 and 10 dtex.
3. The nonwoven as claimed in claim 1 or 2, characterized in that it has a tensile strength index in the machine direction of at least 1.5 and in the cross direction of at least 1.3 newtons per 50 mm per gram of nonwoven per
- 15  $\text{m}^2$  and it has a weight of between 12 and  $150 \text{ g/m}^2$ , preferably between 12 and  $50 \text{ g/m}^2$  and better still between 12 and  $30 \text{ g/m}^2$ .
4. A method of producing a nonwoven, in which filaments coming from a spunbond unit with a die are deposited as a web having a longitudinal direction onto a conveyor, the web is compressed, perpendicular to the plane
- 20 of the web, into a compressed web and then the compressed web is subjected to a consolidation operation by blasting it with water jets having a diameter of 50 to 250 microns at a pressure of 50 to 500 bar, characterized in that:
- the web is deposited onto the conveyor using at least one
- 25 spunbond unit the die of which is inclined relative to the longitudinal direction, and preferably at least two spunbond units the two dies of which are inclined, preferably in opposite directions, relative to the longitudinal direction, at an angle of 10 to  $60^\circ$ , preferably 20 to  $50^\circ$ ;
  - the water jets are blasted, either with interposition of the web, onto

30 a metal fabric, the threads of which have a diameter of between 0.10 mm and 0.35 mm and preferably between 0.18 mm and 0.30 mm, and which has at most 40 and preferably 15 to 30 warp threads per cm and at most 40 and preferably 15 to 30 weft threads per cm, or, with interposition of the web, onto a microperforated sleeve, the dimensions of the perforations of which are

35 between 50 and 600 microns and preferably between 150 and 500 microns, and which has a number of perforations of between 50 and 200 per  $\text{cm}^2$ .

5. The method as claimed in claim 4, characterized in that the metal fabric has a thickness of between 0.40 and 0.75 mm.

6. The method as claimed in claim 4 or 5, characterized in that the metal fabric has a plain, twill or satin weave.

5        7. A nonwoven production installation, characterized in that it comprises a spunbond unit (1) whose die (3) is inclined at an angle of 10 to 60°, and preferably 20 to 50°, relative to the direction of movement of a conveyor (5), and preferably two spunbond units whose dies are inclined, preferably in opposite directions, onto which conveyor the spunbond unit(s)  
10 deposits (deposit) filaments as a web, a compression station for compressing the web thus formed perpendicular to its plane into a compressed web, optionally a station (10) for calendering the compressed web, and then a consolidation station (12 to 14) for blasting pressurized water jets onto the compressed and optionally calendered web using a water-jet blasting machine  
15 which includes a metal fabric, the threads of which have a diameter of between 0.10 mm and 0.35 mm, there being at most 40 threads per cm and preferably 15 to 30 threads per cm both in the warp direction and in the weft direction, or using a water-jet blasting machine with a sleeve having 50 to 600 micron perforations, there being 20 to 200 perforations per cm<sup>2</sup>.

20        8. A filter, characterized in that it comprises a nonwoven as claimed in any one of claims 1 to 3.

9. A hygiene product, characterized in that it comprises a nonwoven as claimed in any one of claims 1 to 3, with a weight of between 12 and 50 g/cm<sup>2</sup>.

25